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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,435	01/14/2004	Tiberiu Jamneala	10030714-1	5635

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL 429
Intellectual Property Administration
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Loveland, CO 80537-0599

EXAMINER

DESTA, ELIAS

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,435

Applicant(s)

JAMNEALA ET AL.

Examiner

Elias Desta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24, 27-30, 32, 33 and 34 is/are rejected.
- 7) ☒ Claim(s) 25,26,31 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/15/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Terminal Disclaimer

1. The terminal disclaimer filed on September 15, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the full statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173 as shortened by any terminal disclaimer filed prior to the grant of any patent granted on pending second application number 10/368,179, filed on February 18, 2003 has been reviewed and is accepted. Applicant's remarks (see terminal disclaimer, filed September 15, 2005) with respect to the rejection of claims 2, 8, 9, 11, 19, 26 and 28-31 over obvious type double patenting have been fully considered. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Schiek et al. (U.S. Patent 4,982,164).

Re-Examination

Claim rejection – 35 U.S.C. § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claims 1, 3-7, 10, 12-18, 20-24, 27, 28 and 32-34 under 35 U.S.C. 101 as claiming the same invention as that of claims 1-13, 15-20, 24, 25 and 28-30 of copending Application No. 10/368,179. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented

Claim rejection – 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by Schiek et al. (U.S. Patent 4,982,164, hereon Schiek).

In reference to claim 1: Schiek teaches a method for determining a parameter value (scattering parameter) for a set of calibration standards (the first, second, third calibration standards) (see Schiek, column 2, line 34 to column 4, line 68). The method is used to calibrate a vector network analyzer (VNA) as shown in Fig. 1. The method includes employing measurements of an asymmetric reciprocal device (the third calibration standard) (see Schiek, column 3, lines 19-30, lines 65-68, and column 9, lines 40-53) to optimize a parameter value (the error parameters of the network analyzer) of a defining parameter of the set calibration standards.

In reference to claim 18, Schiek teaches a method of compensating a calibration of a vector network analyzer. The method includes optimizing error coefficients (see Schiek, column 4, lines 64-65, error parameters) of an error model of the vector network analyzer using measurements of an asymmetric reciprocal device (see Schiek, column 3, lines 19-23, the third calibration standard), wherein the calibration is compensated to minimize effects of poorly known defining parameter or unknown scattering parameters of a set of calibration standard used for calibration (see Schiek, column 4, lines 56-68).

Claim rejection - 35 U.S.C. 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 8, 9, 19, 23, 28-30, 32 and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Schiek et al. (U.S. Patent 4,982,164) in view of Ferrero et al. (IEEE Article, 'Comparison Between a Vector Multi-Port Network Analyzer and the National S-Parameter Measurement', hereon Ferrero).

In reference to claim 2, as noted above, Schiek teaches a method of determining a parameter value (scattering parameter) for a calibration of standards, such as first, second and third calibration standards. Schiek further

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teaches that a method for determining a parameter value for a set of calibration standard is used to calibrate a vector network analyzer which employs measurements of an asymmetric reciprocal device, but does not provide that the asymmetric reciprocal device has a number of ports greater than or equal to a number of test ports of the multi-port vector network analyzer (VNA) (see Schiek, Fig. 1).

Ferrero discloses an equal number of device ports are equal to the number of multi-port network analyzer (VNA or NWA). Therefore, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to modify the asymmetric reciprocal device taught in Schiek and incorporate an equal number of ports with the VNA in order to establish all the required standard values because the measurement or the calibration provides a logical test where its capability is adopted as a standard measurement system (see Ferrero, page 143, last paragraph).

With regard to claims 8 and 9 as noted above, Schiek further teaches that a method for determining a parameter value for a set of calibration standard used to calibrate a vector network analyzer employs measurements of an asymmetric reciprocal device, but does not provide a known defining parameters and single thru standard of the set of calibration.

Ferrero teaches a 3-port test set calibration method than includes three single thru connections and one sliding load at port 1 (a known defining parameter) (see Ferrero et al., page 143, paragraph 5).

Therefore, it would have been obvious to the person having an ordinary skill in the art at the time the invention was made to modify the calibration standard used to calibrate a vector network analyzer which employs measurement of an asymmetric reciprocal device as noted in Schiek with a known 3-port test set calibration method that includes three single thru connections at ports 1-3 and one sliding load at port 1 (a known defining parameter) because the test arrangement would provide the user to reduce the random noise and minimize the frequency error (see Ferrero et al., page 143, 2nd column, 2nd paragraph).

With regard to claim 19, Schiek further teaches that the method of compensating a calibration of a vector network analyzer having a set of ports. The method includes optimizing error coefficients (see Schiek, column 4, lines 64-65) of an error model of the vector network analyzer using measurements of an asymmetric reciprocal device (see Schiek, column 3, lines 19-23). However, the method does not include a set of precision thru calibration standard. As noted above in the discussion of claims 8 and 9 Schiek in combination with Ferrero et al. includes a three single thru connections at ports 1-3 and one sliding load at port 1 (a known defining parameter), further in Ferrero et al., the sliding load at port 1 has 30 dB precision attenuator S21 (see Ferrero et al., Fig. 3).

With regard to claim 23: Schiek teaches performing calibrated measurements on a device under test or test item (see Schiek, column 4, line 59) with the vector network analyzer using the optimized error coefficients or error parameters (see Schiek, column 4, lines 64-65).

In reference to claim 28: as noted above, Schiek in combination with Ferrero et al. teaches a multi-port vector network analyzer. The analysis includes a calibration compensator (the three calibration standards used, column 2, lines 34 to column 4, line 68) that compensates for inaccuracies in knowledge of a parameter value (scattering parameters) of a calibration standard in a set of calibration standard, the set of calibration standards being used to calibrate the vector network analyzer (VNA) (see Schiek, Fig. 1), the calibration compensator comprising a measurement of an asymmetric reciprocal device (the third calibration standard) (see Schiek, column 3, lines 19-23).

With regard to claims 29, 30 and 34: Schiek in combination with Ferrero teaches a multipoint vector network analyzer that compensates for inaccuracies in knowledge of a parameter value (scattering parameter) of a set of calibration standards comprising:

- A test set (see Schiek, Fig. 1), the test set includes a port (see port in Fig. 1), the port being temporarily connected to a calibration standard (the first and second calibration standards) of the set of calibration standards and independently temporarily connected to an asymmetric

reciprocal device (the third calibration standard) (see Schiek, column 3, lines 19-23);

- A memory that stores the computer program (see Schiek, column 4, lines 66, memory in VNA), and a controller that controls an operation of the test set and executes the computer program

Wherein the computer program comprises instruction that compensates a calibration of the vector network analyzer (VNA) using measurements of the asymmetric reciprocal device (the third calibration standard) (see Schiek, column 3, lines 19-23) taken with the test set to determine an optimized set of error coefficients (optimized error parameters) (see Schiek, column 4, lines 64-65).

In reference to claim 32: Schiek in combination with Ferrero teaches a vector network analyzer (VNA) (see Schiek, Fig. 1). The VNA compensates for inaccuracies in knowledge of a parameter value (scattering parameter) of a set of calibration standards. The VNA includes a test set where the test set comprising a port (see Schiek, Fig. 1, ports) the port being temporarily connected to a calibration standard (the first and second calibration standard) of the set of calibration standards and independently, temporarily connected to an asymmetric reciprocal device or the third calibration standard (see Schiek, column 3, lines 19-23).

Claim Objection

7. Claim 25, 26, 31 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Argument

8. Applicant's arguments (filed September 15, 2005) with respect to the rejection of Claims 1, 3-7, 10, 12-18, 20-24, 27, 28 and 32-34 under 35 U.S.C. 101 as claiming the same invention as that of claims 1-13, 15-20, 24, 25 and 28-30 of copending Application No. 10/368,179 have been fully considered but they are not persuasive because claims 1, 18 and 24 are not limited to "more than two test ports" so multi-port still reads on two ports.

Conclusion

9. Other prior art made of record:

- Coren (IEEE Article, 'Reciprocity in EMI-EMC') teaches interpreting the law of reciprocity including reversibility and passivity of elements in the reciprocal system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax

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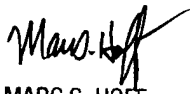
phone numbers for the organization where this application or proceeding is assigned are (571)-272-8300 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta
Examiner
Art Unit 2857

-ed

November 14, 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
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